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## SPECIFICATION

## TITLE OF THE INVENTION

## OPTICAL ANTENNA

*This application is a National Filing pursuant to 35 U.S.C. 371 based upon International Application No. PCT/JP03/01034, filed January 31, 2003.*

## TECHNICAL FIELD

The present invention relates to an optical antenna for transmitting and receiving a laser beam to and from space.

## BACKGROUND ART

A conventional optical antenna controls the transmitting and receiving direction of a laser beam by having a position adjuster for three-dimensionally aligning the position of an optical fiber with the imaging lens of an optical system, and a gimbal mechanism for controlling movement of a casing that accommodates the optical antenna (see, the following Relevant Reference 1).

Relevant Reference 1: Japanese patent application laid-open No. 10-233738/1998 (see, paragraphs [0018]-[0022], and Fig. 2)

With the foregoing configuration, the conventional optical antenna can control the transmitting and receiving direction of the laser beam in accordance with the position of an object to be measured even though it changes its position. However, to control the transmitting and receiving direction of the laser beam, it is necessary to install the position adjuster and gimbal mechanism, which consist of complicated mechanical elements. Thus, it has a problem of increasing the cost and weight.

In addition, it must move and adjust the optical fiber and casing three-dimensionally every time the object to be measured

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